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The Kentucky Plan Revisited: Lessons Learned From An Innovative Doctoral Education Program

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ABSTRACT

In the first doctoral education special issue of the Journal of Health Administration Education, the authors presented the University of Kentucky College of Public Health's plans for an innovative new Doctor of Public Health (Dr. P.H.) degree. The degree as designed, prepares graduates for professional practice, and included extensive supervised field experience as part of the academic training linking theory with practice. Based upon the interest that the Kentucky Dr.P.H. degree program received, the authors will share the experience of the degree's initial years of operation through a "lessons learned" paper. As the program evolved there have been many lessons related to trends, curriculum design, admissions, prerequisite requirements, curriculum innovations, scheduling, the comprehensive examination, and attrition. In addition, there are many questions for the future.

"In theory, theory and practice are the same. In practice, they are not."

-- Lawrence Peter "Yogi" Berra

INTRODUCTION

In the first doctoral education special issue of the Journal of Health Administration Education, 19(3), The State of Doctoral Education in Health

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Editorial Note: AUPHA/JHAE editorial style dictates that degrees be shown without periods. However, for the purpose of this article, because the Kentucky D.R.Ph. utilizes the period, we have maintained that style.

Administration and Policy, the authors presented a model for a new and innovative approach to Doctor of Public Health (Dr.P.H.) degree education that was designed to prepared graduates for professional practice (Lee and Scutchfield, 2001). That publication received a great deal of attention in schools of public health, and several new Dr.P.H. degree programs have been designed utilizing this model. The University of Kentucky Dr.P.H. responds to demands as described in the Institute of Medicine (1988) report, *The Future of Public Health* that described an "urgent need" for public health leaders. The University of Kentucky Doctor of Public Health degree was developed as an advanced professional practice degree, preparing participants for roles in leadership to protect and improve the health of the public. The degree was intended to recognize achievement of a comprehensive body of technical knowledge in public health and its related disciplines (health administration and policy, epidemiology, biostatistics, health behavior, and environmental health), and the ability to initiate, organize, and pursue problem solving of significant issues in public health.

That University of Kentucky Doctor of Public Health degree is now six years old. As is the case with any innovation, there are successes and concerns that have evolved with implementation. Based upon the interest that the Kentucky Dr.P.H. degree program received, this report shares the experience of the degree's initial years of operation through a "lessons learned" format. Preparing "lessons learned" papers has been increasingly common in the health care field as a strategy to improve performance on topics such as bioterrorism (Hoffman and Norton, 2000), hospitals (Nelson, 2007), and collaboration in medicine and public health (Peters et al., undated) and requires a candid assessment by the authors.

TRENDS IN PUBLIC HEALTH DOCTORAL EDUCATION

Interest in Doctor of Public Health professional education has increased in recent years as the number of Council on Education in Public Health (CEPH) accredited schools of public health in North America has grown from 33, to 40 universities, with as many as 20 additional schools under development. In addition, many new Doctor of Public Health degree programs have developed in Europe and Asia. Recognizing this growth, Dr.P.H. education was a topic for the Association of Schools of Public Health Associate Deans Retreat in 2003, and results of a survey of public health associate deans for this meeting and the results of small group discussion on the issue are reported in a forthcoming issue of *Public Health Reports* (Lee, et al., 2009). The following findings are of particular note in understanding doctoral educational trends. In 2003, only 19 of the then 33

accredited schools of public health offered the Dr.P.H. degree. However 20 (76 percent) of the 27 associate deans responding indicated that there was a market demand for graduates with the Dr.P.H. degree. In response to a question asking if students, faculty, and employers view the Dr.P.H. degree as being of equal rigor to other doctoral degrees in public health, nine associate deans (37 percent) responded yes, with an equal number responding to the contrary. An additional five associate deans indicated that rigor varies with programs, and one responded, "not sure". Simultaneously, seven of the associate deans located in the 14 schools lacking Dr.P.H. education indicated that development of the degree was under consideration. Five of these schools have since established new Dr.P.H. programs; the remainder of Dr.P.H. program growth is in developing and newly accredited schools. Recent events have again focused attention on the Dr.P.H. degree, notably when the CEPH accreditation criteria for schools of public health increased the minimum requirement from one to three doctoral degrees. In 2006, the Association of Schools of Public Health established a Doctor of Public Health Committee, to address issues related to Doctor of Public Health education Task Force:

- 1) consensus on what a Dr.P.H.* curriculum should address, while recognizing that this consensus is not meant to be prescriptive and does not set a standard to which all Dr.P.H. programs should conform,
- 2) Create a format for directors for Dr.P.H. programs to interact and exchange information, and
- 3) Develop a set of core competencies for the Dr.P.H., which could provide a more consistent understanding of the qualifications of those who earn the degree (Raczynski, 2007).

During this period, the total number of students pursuing the Dr.P.H. degree rose from 644 in 2003, to 846 in 2006. The University of Kentucky program grew to 52 students, becoming the fifth largest Dr.P.H. program in the nation behind Loma Linda University (87), Johns Hopkins University (86), The University of Texas (78), Columbia University (63), and the University of North Carolina (52), (Association of Schools of Public Health, 2004, and 2007).

THE DR.P.H. CURRICULUM*

Milton Roemer has been the most prolific writer about Dr.P.H. education. Roemer (1986) differentiated the Master of Public Health (MPH) graduate

* There is no consensus on the abbreviation to be used for the Doctor of Public Health degree with universities using Dr.P.H., DrPH, and DPH for degrees awarded.

(frequently a prior graduate with a clinical degree) with limited systematic knowledge of public health problems, from the Dr.P.H. who completes postgraduate training as demanding as that of an MD. In 1988, Roemer continued to advocate the professional Doctor of Public Health generalist degree, setting it apart from clinical and PhD degrees, enhancing the model curriculum, and advocating its adoption in schools of public health. Roemer advocated for a five-year post baccalaureate curriculum that was based on the medical education model. While the University of Kentucky Dr.P.H. is not a mirror image of the "Roemer Model", it is a "hybrid" using a three-year advanced doctoral curriculum that is built upon essential Master's degree content including five introductory core courses. The Dr.P.H. curriculum addresses generalist professional public health education rather than a single functional specialty PhD, and requires field practice experiences that clearly differentiate it from the traditional PhD curriculum.

The Lee and Scutchfield (2001) paper describes the University of Kentucky Dr.P.H. curriculum in detail. In summary, the University of Kentucky Dr.P.H. degree was designed as a College-wide generalist, advanced professional degree consistent with the Institute of Medicine's recommendations for linkage of academic and practice activities in public health. All students complete a curriculum spanning the five core discipline areas offered by the College of Public Health. Initially, advanced course work was available in three disciplines, and as planned has expanded to include all five disciplines. The Dr.P.H. curriculum addresses each of the five core disciplines; however, student selection of the Biostatistics concentration remains modest. This is appropriate and consistent with the program's practice mission. The Dr.P.H. degree requires a minimum of 63 semester hours of course work past the master's degree on a full or part-time basis. Typically, a full time student requires three years past the master's degree to complete the program. The Dr.P.H. curriculum consists of five components, the core curriculum, advanced course work, doctoral colloquium, the public health field experience, and the "capstone" problem solving or research project as the culminating experience. The UK Dr.P.H. program includes the following components:

Core Curriculum: A 24-semester hour required core curriculum consisting of one advanced courses in each of the five core areas of public health. This requirement presumes masters degree competency in each of the five core areas, with the first doctoral course serving as an intermediate level course building on this foundation. These five "intermediate" core courses are frequently compared to the equivalent of second year French courses where competency in the prerequisite first year French course is essential to understanding and performance. In addition, furthering the generalist

model, all students are required to complete “advanced” courses in three of the five core areas, including their personal area of concentration. This is a modification of the original plan where all students were asked to complete two courses in four core disciplines (epidemiology, biostatistics, health services management, and health behavior), and one advanced course in occupational and environmental health. This curriculum decision reflects student and faculty feedback. In the initial curriculum plan, faculty in the environmental health discipline expressed concern that a two-course sequence would not be feasible for students lacking a master degree in the discipline. This is now managed on a case-by-case basis. In addition, research methods content was to be integrated into each of the five advanced core courses. This proved to be less successful than planned, and a more traditional research methods course was added to the curriculum as a requirement to provide students with skills needed for the capstone requirement and for practice. While the Dr.P.H. degree is defined as preparation for senior level leadership, and courses in leadership are offered as electives, there is not a required core course in leadership. While many core and advanced courses do involve leadership content, in retrospect, a dedicated course in leadership should be considered as a requirement for inclusion in the curriculum.

Selective courses: Students are required to complete five “selective” courses, 15 semester hours of advanced course work in a single core area of concentration. Student selection of these courses is made with the student’s advisor. Two issues have emerged in this area. As the program has evolved, faculty have had mixed opinions on the inclusion of masters and doctoral students in the same class. In some cases, this has been linked to personal experience of faculty in their own doctoral education, in other instances it has been a didactic question of how an advanced course in a topic such as finance would differ at the masters and doctoral levels. An additional factor is that offering a doctoral degree program with 10-15 student admissions per year, spread over four or five concentrations presents a situation where some doctoral courses may have very small enrollments, and the potential for being canceled for their small enrollment. This is complicated by course scheduling to accommodate part-time commuting students wishing to arrange for more than one class on a single visit to campus. At one stage, admissions of a larger 20-30 student cohort in alternating years was considered, but rejected based upon applicant feedback and the desire not to wait over a year prior to matriculation.

Professional Colloquium: All students are also required to participate in a public health doctoral professional colloquium (one semester hour of credit) for six semesters of enrollment, not each semester of enrollment,

as originally proposed. The purpose of this integrative colloquium was to encourage contact with both the professional and academic communities and to enable students to become involved with colleagues, libraries, laboratories, and ongoing programs of research and inquiry. The colloquium was initially designed to integrate the curriculum content of the five core disciplines, and to offer part-time students an opportunity to experience the intellectual ferment that characterizes a university. The colloquium was also to be a forum for discussion of development, progress, and presentations of the capstone projects as well as being an opportunity for a primarily part-time student enrollment to establish relationships and culture. Unfortunately, there has been a gap between intent and implementation of the colloquium course. Some class sessions, including those with guest speakers have not been as successful as planned. This problem with the colloquium is likely linked to a variety of issues. The colloquium was originally conceived as a weekly one-hour brown bag session. Following admission of students who were commuting two to three hours to class, the schedule was revised to a single two and one half hour monthly session. Consistent with University policy, as a credit course, part-time students have been required to pay a fee for enrollment. The course has never evolved as a forum for the discussion and presentation of capstone projects as intended, as the capstones tended to be grouped late in each semester, or during the summer rather than being well distributed over the year. Given the problems with tuition, course scheduling and attempting to deal with student criticism, the course has not met its potential. The course remains in the curriculum while the issues that preclude its achieving its intention are addressed.

Practicum: As a professional degree, practice is critical to education. The purpose of the field requirement is to encourage exposure to professional public health practice. The Dr.P.H. curriculum includes two required doctoral field practice experiences for all students regardless of prior work experience. However, the doctoral field experiences are designed to accommodate the needs of working professional with the first practicum (two semester hours) offered as an introductory, one semester, one day per week experience for a total of 120 clock hours with the option of flexible time scheduling on the job. The second field experience (four semester hours) was designed as an advanced one semester, two days per week experience for a total of 240 clock hours. It was anticipated that some students would leave full-time jobs for the second practicum and completion of the capstone requirement, however only a modest number of students have done so. Opportunities to place students in part-time consulting roles during the practicum were explored but have not evolved. Students are placed in public health set-

tings applying general and disciplinary knowledge, and doing work that would not be a part of their routine work responsibilities. The latter practicum experience also represented, in our anticipation, the opportunity to identify a problem that could be the basis of the capstone, and even collect data, however, that plan has not fully materialized. A growing number of students have proposed rescheduling both practicum activities on a full-time basis, such as 15 days spread over three weeks. This allows a full-time student to complete both of the practica experiences during one summer, when they could travel some distance for their practicum, for example to the CDC in Atlanta. While the experiential requirement remains constant and is not waived based upon prior work experience, the practicum has gained greater flexibility in scheduling than originally proposed. The appointment of a new Assistant Dean for Public Health Practice with extensive professional work experience has also facilitated placements appropriate to the needs of students; however, the program continues to rethink issues such as practicums in a research setting.

Capstone: The culminating experience is an applied problem solving or research capstone project requirement. It is not referred to as a dissertation to differentiate it from the traditional theory based PhD culminating experience. However, some students and faculty have expressed concern for perceptions of lesser rigor in the applied capstone, and a proposal to offer an option to students between the applied capstone and a research dissertation has been proposed. Additional ideas, including a portfolio of work, or an alternative of three manuscripts for publication in relevant professional journals have been considered; however, the capstone presently remains the sole culminating experience.

In summary, the Dr.P.H. curriculum is intended as a generalist, professional degree, building upon prerequisite work and selectives, field practica, and the culminating experience into an integrative model, preparing graduate for professional roles. The curriculum is viewed as effective, but subject to continuous improvement and evolution.

OTHER ACADEMIC MATTERS

In addition to curriculum, our experience has increased our appreciation of a variety of additional academic matters including admissions, prerequisite requirements, curriculum innovations, scheduling, the comprehensive examination, and program completion and attrition. Admissions for the Dr.P.H. program have been an extraordinary experience. As anticipated, there was a preexisting demand for doctoral professional education, and initial applicants tended to be very senior working professionals. As this

senior level part-time student need has been met, the applicant pool has shifted to mid-career professionals and recent MPH graduates. The application process has been a centralized College function with a target of 10 to 15 admissions annually. As a young program, the impact of the Internet as a marketing tool, along with active and traveling admissions staff are a remarkable asset to student recruitment. The work experience of applicants tends to be substantial; however, reasons for applicant selection of the Dr.P.H. program are frequently less clear to the admissions committee. A common admissions committee question addressed whether the applicant was seeking admission to the Dr.P.H. program as it was an ideal match to career plans, or alternatively the only doctoral degree available locally for a working professional in the region. A required biosketch has been less revealing than anticipated in answering such questions, and many applicants describing a "noble calling" rather than specific learning or career objectives. With a nontraditional applicant pool, grade point averages and Graduate Record Examination scores are difficult to use as predictors of success. As an applicant database is built over time, analysis of these measures could suggest some predictive power, however, our experience is that the performance of nontraditional students are not in any way related to either standardized exams or grades earned several years ago. All program applicants participate in an orientation/interview day where they meet with two teams of interviewers (a Dr.P.H. student and a faculty member); the student participation was added in the third year. These interviews have been extremely useful in evaluating applicants and are complementary, if not more valuable than written applications. The varied applicant pool and matriculants have created a set of students who are the most diverse of any professional doctoral program at the university.

Many prospective students have earned masters degrees in areas other than public health including business, social work, and nursing, or clinical doctoral degrees in medicine or dentistry. Others are nontraditional students who completed an MPH degree 15 or more years in the past. It is the responsibility of the Dr.P.H. program director and disciplinary department chairs to assess student competency in required prerequisite course areas. In Biostatistics, the faculty reasonably argued that retention of content has limitations, and a policy was implemented that the masters level prerequisite course must be completed within the most recent five years prior to matriculation. For students not meeting this expectation, a competency examination is offered and must be successfully completed or the course repeated on a non-credit basis. (To date no student has opted for the examination, all have chosen to complete a remedial statistics course.)

In both Health Services Management, and Epidemiology, faculty review prerequisite course syllabi to assess content of courses, and relevance to the prerequisite requirement. Health Services Management has been particularly complex as students have offered an array of masters level courses including basic management, health care systems, and health policy as proposed prerequisites. Competency assessment at the time of matriculation remains a developing process for the degree.

Several students have expressed an interest in completing two separate Dr.P.H. concentrations concurrently, for example Health Services Management, and Epidemiology. Following experimentation, current policy permits a strategy requiring students to complete five selectives in each discipline they wish to identify as a concentration (unless a course such as managerial epidemiology is approved for both concentrations) along with practica and a capstone project addressing both disciplines.

Class scheduling has also been challenging. Recognizing our emphasis on working professionals initially all classes were scheduled as a single weekly meeting at 3:00 or 6:00 pm permitting a student a morning at work, followed by a single commute to campus for six credit hours. As the College has expanded, noon sessions have been added, and most recently full day executive format Saturday classes. However, due to varying paces of work and course plans, maintaining the ability to offer single day programs to meet the needs of each student remains a challenge. In addition, the growth in the number of full-time students has resulted in requests for less evening, and more morning classes.

The Dr.P.H. degree is a terminal professional degree and is organized using the same administrative structure as the five other UK clinical professional doctoral degree programs. Because it is a professional degree, the Dr.P.H. is governed by the UK College of Public Health, not the University's Graduate School. While this has given the College more flexibility in its organization and administration, there are downsides to this arrangement. Following implementation, Dr.P.H. tuition was set at the same level as the Doctor of Pharmacy (Pharm.D), and the Doctor of Nursing Practice (DNP) degrees, a higher tuition rate than the PhD tuition in the Graduate School. This is of particular importance to out-of-state applicants, as the tuition differential is significant. To date, this differential does not appear to have affected out-of-state applicants; however, concern exists for the future. The other issue is that the Graduate School offers stipends and tuition waivers for doctoral students who fall under their administrative purview, and professional doctoral students are not eligible for that assistance.

As in most doctoral programs, a comprehensive examination serves as an assessment of competency for students to proceed to the culminating experience. In the first iteration of the examination, it was agreed that there would be a single standardized examination for all Dr.P.H. students, rather than individually tailored examinations for each student. However, following substantial discussion, the Dr.P.H. faculty were unable to develop integrative questions spanning course content in the five disciplines. Consequently, the examination consisted of two questions in the student's area of concentration, and one in each of the remaining four core areas. Eligibility for the exam was based upon completion of all required coursework for the Dr.P.H. The examination was designed as an open book, take home examination allocating 24 hours for each question. In the fourth year of the program, students began to express concern about the format and schedule of the examination. Following a survey of students, and with student and faculty participation, a revised examination model was implemented dividing the comprehensive examination into two parts:

Phase I, the Core Principles Examination, a College-wide examination covering the content of the five introductory/intermediate Dr.P.H. core courses. This examination must be completed within one year of completing these courses, and failure on any question results in a referral to an ad hoc committee which will establish a plan for remediation of deficiencies, and

Phase II, the Qualifying Examination in a student's area of concentration is administered by the College Department offering the student's area of concentration. This examination requires completion of the advanced core course in the student's area of concentration and the research methods course, and a passing grade on this exam is required for a student to proceed.

A remaining area of attention is alignment of examination expectations with course assessment. In some cases, students earned an "A" letter grade in the required doctoral courses, but did not pass the course specific examination question. This has prompted a more reflective look at the core course requirements and the core examination.

The Dr.P.H. Program is concerned about successful completion of the program by its students. The Council of Graduate Schools (2007) reports a ten-year attrition rate of 43.4 percent for PhD students from 1992-93 through 1994-95. As a young program, direct comparison is not yet possible for UK Dr.P.H. students; however, it is clear that the Dr.P.H. program is experiencing attrition. Early attrition appears to occur due to students misjudging the rigor of the program, and the time commitments necessary to excel,

and/or difficulties for nontraditional students returning to the classroom. Mid-program attrition has occurred with increased job or family responsibilities, including job transfers out of the area, and several instances of a student's failure to pass a course in one core area (typically biostatistics or environmental health), or in a small number of instances failing to remediate the comprehensive examination. Late program attrition is presently the least clear matter, as there are many students in the process of completing capstone projects, a common attrition point for "ABDs". Conscientious admissions decisions based upon initial experience, defining expectations for applicants and new students, and monitoring and mentoring of continuing students have been considered to assure progress in degree completion.

Faculty describe extraordinary experiences with the Dr.P.H. classes, and the level of professional knowledge and discussions in the classroom are remarkable in their depth and understanding of issues. Graduates as well as current students are employed in local and state health departments, clinical services, and private industry. A noteworthy and unanticipated occurrence is the large number of graduates accepting positions as faculty at universities. In our original Dr.P.H. paper, we cited Myron Fottler's (2000) paper that reported in the late 1960's many universities developed doctoral programs in policy studies to prepare high-level policy makers for government, healthcare, education, and other organizations. However, many of these programs were subsequently discontinued when graduates pursued traditional academic positions rather than the policy positions envisioned by the program developers. This paradox also exists for the Kentucky Dr.P.H. program. While we anticipated that the didactic coursework, emphasis on field experience, and applied nature of the capstone project, along with an admission process that promotes selection of senior level working professionals with clear career goals, would increase the likelihood of graduates remaining in professional practice, the appeal of university careers appears to exceed our original expectations. While these opportunities are a complement to the graduates and an acknowledgement of the program's quality, this was not part of the original program mission. Consequently, reassessment of demand and opportunities for graduates may need to be reconsidered. If the academic career path subsequently becomes part of the mission, enhancements to curriculum relevant to this career path will be required.

CONCLUSIONS

The University of Kentucky Doctor of Public Health degree was designed as a professional degree to prepared graduates for senior level practice

through an innovative curriculum, and the model has been adopted by other universities. The program is now in its sixth year, and there have been numerous lessons gained through its initial development. These lessons relate to trends, curriculum design, admissions, prerequisite requirements, curriculum innovations, scheduling, the comprehensive examination, and attrition. In addition, there are many questions for the future including, teaching of leadership, defining and assessing competencies, maintaining academic rigor, executive and off campus education, preparation of future faculty, responding to a shifting applicant pool, balancing the needs of part-time and full-time students, and assuring student completion. To continue its efforts, the Dr.P.H. program will need to continuously reexamine its external environment, and change to adapt to needs. The authors are enthusiastic about the program, and for this reason are comfortable sharing the problems as well as the successes associated with the degree, again noting that it is the most fun they have ever had teaching.

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